

STRAINED finFETs AND METHOD OF MANUFACTURE

ABSTRACT

A semiconductor structure and method of manufacturing is provided. The method of manufacturing includes forming shallow trench isolation (STI) in a substrate and providing a first material and a second material on the substrate. The first material and the second material form a first island and second island at an pFET region and a nFET region, respectively. A tensile hard mask is formed on the first and the second island layer prior to forming finFETs. An Si epitaxial layer is grown on the sidewalls of the finFETs with the hard mask, now a capping layer which is under tension, preventing lateral buckling of the nFET fin.

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